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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/350,202	07/08/1999	CARL H. JUNE	36119-125US9	7708

7590 04/13/2004

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EXAMINER	
GAMBEL, PHILLIP	
ART UNIT	**PAPER NUMBER**
1644	

DATE MAILED: 04/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/350,202	JUNE ET AL.	
	Examiner	Art Unit	
	Phillip Gambel	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 January 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *60-77* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *60-77* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1. Applicant's amendment, filed 1/16/04, has been entered.
Claims 1-59 have been canceled.
Claims 60-77 have been added.

Claims 60-77 are under consideration in the instant application.

2. Upon reconsideration of applicant's amended claims drawn to methods which employ the use of "anti-CD3 and anti-CD28 antibodies which are covalently attached to the same surface to induce the population of T cells to proliferate to sufficient numbers for use in therapy", the previous rejection under35 U.S.C. § 103 as being unpatentable over Ledbetter et al. (EP0440373) in view of Ledbetter et al. (U.S. Patent No. 6,010,902) and Chang (U.S. Patent No. 6,129,916) has been withdrawn.

3. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 65 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for "determining the level of expression of B7-1 or B7-2"; does not reasonably provide enablement for "determining the level of expression of any cell surface molecule". The specification does not enable any person skilled in the art to which it pertains, or with which it is most clearly connected, to make and use the invention commensurate in scope with these claims.

Applicant has not provided sufficient biochemical information (e.g. molecular weight, amino acid composition, N-terminal sequence, etc.) that distinctly identifies "cell surface molecule" other than those encompassed by "B7-1 or B7-2". There is insufficient direction and guidance as enable the skilled artisan to make and use the scope of such "molecules", as there is insufficient guidance and direction as to structure of the "molecules", broadly encompassed by the claimed invention.

There are a number of different cell surface molecules on T cells which may participate in the complex biochemical events that culminate in T cell activation. In addition, there are early and later cellular responses resulting from the complex cascade of activation events. The activation of T cells may be manifested in a variety of way including the expression of new cell surface molecules, secretion of a host of lymphokines, cell proliferation and cellular differentiation. All or only some of these events may be manifested by activated T cells and dominate a particular response. There is insufficient guidance and direction as to enable the skilled artisan to determine which "cell surface molecules" which correlate to the proliferation of T cells in response to stimulation with anti-CD3 and anti-CD28 antibodies, as encompassed by the claimed methods.

The scope of the claims must bear a reasonable correlation with the scope of enablement. See In re Fisher, 166 USPQ 18 24 (CCPA 1970).

Without sufficient guidance, the changes which can be made in the structure of "functional derivatives of ICAM-1" and still provide enhanced ability to bind LFA-1 is unpredictable and the experimentation left to those skilled in the art is unnecessarily, and improperly, extensive and undue

Applicant is invited to amend the claims to recite "B7-1 or B7-2" as recited in claim 66 to obviate this rejection.

5. Claim 65 is rejected under 35 U.S.C. § 112, first paragraph, as the specification does not contain a written description of the claimed invention, in that the disclosure does not reasonably convey to one skilled in the relevant art that the inventor(s) had possession of the claimed invention at the time the application was filed.

There is insufficient written description of the genus of cell surface molecules set forth in claim 65.

There is insufficient written description of the claimed genus of "cell surface molecules" in the absence of defining the relevant identifying characteristics such as the structure of other physical and/or chemical characteristics of the claimed genus and, in turn, there is insufficient written description of such identifying characteristics of the claimed genus of "cell surface molecules" in the specification as filed, commensurate in scope with the claimed invention. For example, there is insufficient structural information or defining characteristics which provide for a sufficient written description of the claimed "cell surface molecules".

Vas-Cath Inc. v. Mahurkar, 19 USPQ2d 1111, 1116 (Fed. Cir. 1991). makes clear that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention*. The invention is, for purposes of the 'written description' inquiry, whatever is now claimed." (See page 1117.) The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." (See Vas-Cath at page 1116.)

Adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method for isolating it. See Fiers v. Revel, 25 USPQ2d 1601, 1606 (CAFC 1993) and Amgen Inc. V. Chugai Pharmaceutical Co. Ltd., 18 USPQ2d 1016 (Fed. Cir. 1991).

One cannot describe what one has not conceived. See Fiddes v. Baird, 30 USPQ2d 1481, 1483. In Fiddes v. Baird, claims directed to mammalian FGF's were found unpatentable due to lack of written description for the broad class. The specification provided only the bovine sequence.

The Court further elaborated that generic statements are not an adequate written description of the genus because it does not distinguish the claimed genus from others, except by function. Finally, the Court indicated that while applicants are not required to disclose every species encompassed within a genus, the description of a genus is achieved by the recitation of a representative number of DNA molecules, defined by nucleotide sequence, falling within the scope of the genus, See The Regents of the University of California v. Eli Lilly and Company, 43 USPQ2d 1398, 1406 (Fed. Cir. 1997).

Here for example, the instant specification discloses a certain limited species of "cell surface molecules", namely "B7-1 and B7-2" and does not provide a sufficient number of species that support the claimed genus of "cell surface molecules".

There are a number of different cell surface molecules on T cells which may participate in the complex biochemical events that culminate in T cell activation. In addition, there are early and later cellular responses resulting from the complex cascade of activation events. The activation of T cells may be manifested in a variety of way including the expression of new cell surface molecules, secretion of a host of lymphokines, cell proliferation and cellular differentiation. All or only some of these events may be manifested by activated T cells and dominate a particular response. There is insufficient guidance and direction as to provide the written description of those "cell surface molecules" which correlate to the proliferation of T cells in response to stimulation with anti-CD3 and anti-CD28 antibodies, as encompassed by the claimed methods.

Mere idea or function is insufficient for written description; isolation and characterization at a minimum are required

The instant claims do not provide sufficient structural and functional characteristics coupled with a known or disclosed correlation between function and structure. Since the disclosure fails to describe the common attributes or characteristics that identify members of the genus of "cell surface molecules".

The Guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112, ¶ 1 "Written Description" Requirement make clear that if a claimed genus does not show actual reduction to practice for a representative number of species; then the Requirement may be alternatively met by reduction to drawings, or by disclosure of relevant, identifying characteristics, i.e., structure or other physical and or chemical properties, by functional characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics, sufficient to show the applicant was in possession of the genus (Federal Register, Vol. 66, No. 4, pages 1099-1111, Friday January 5, 2001, see especially page 1106 column 3).

In the absence of structural characteristics that are shared by members of the genus of "cell surface molecules", the skilled artisan would conclude that the disclosure fails to provide a representative number of species to describe the genus. Thus, Applicant was not in possession of the claimed genus. See University of California v. Eli Lilly and Co. 119 F.3d 1559, 43 USPQ2d 1398 (Fed. Cir. 1997).

Applicant is directed to the Guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112, ¶ 1 "Written Description" Requirement, Federal Register, Vol. 66, No. 4, pages 1099-1111, Friday January 5, 2001.

"Adequate written description requires a precise definition, such as by structure, formula, chemical name or physical properties, not a mere wish or plan for obtaining the claimed chemical invention." Id. at 1566, 43 USPQ2d at 1404 (quoting Fiers, 984 F.2d at 1171, 25 USPQ2d at 1606). Also see Enzo-Biochem v. Gen-Probe 01-1230 (CAFC 2002).

Applicant is reminded that Vas-Cath makes clear that the written description provision of 35 USC 112 is severable from its enablement provision. (See page 1115.)

Applicant is invited to limit the invention to the B7-1 or B7-2 as set forth in claim 66 to obviate this rejection

6. Claims 60-77 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over
copending claims of commonly assigned copending USSN 08/253,964;
copending claims of commonly assigned copending USSN 08/592,711;
copending claims of commonly assigned copending USSN 09/349,915; and
copending claims of commonly assigned copending USSN 09/553,865.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant and copending claims appear to rely upon the same or nearly the same method steps and ingredients, particularly the use of anti-CD3 and anti-CD28 antibodies to stimulate and expand T cells.

This is a *provisional* obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Applicant's amendment, filed 1/16/04, reiterates the previous position that a terminal disclaimer may be filed when allowable subject matter is indicated.

Upon a review of copending claims of commonly assigned copending USSN 09/183,055; the previous are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over USSN 09/183,055 has been withdrawn. As applicant's amendment, filed 1/16/04, notes these copending claims are patentable distinct as they include anti-CD9 antibodies to sitmulate CD8+ T cells.

7. Claims 60-77 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-32 of U.S. Patent No. 6,352,694 and over claims 1-29 of U.S. Patent No. 6,534,055. Although the conflicting claims are not identical, they are not patentably distinct from each other because the pending and patented claims are drawn to the same or nearly the same methods of stimulating T cells with anti-CD3 and anti-CD28 antibodies and, in particular, the patented claims anticipate the instant claims.

Applicant's amendment, filed 1/16/04, reiterates the previous position that a terminal disclaimer may be filed when allowable subject matter is indicated.

8. No claim is allowed.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phillip Gambel whose telephone number is (571) 272-0844. The examiner can normally be reached Monday through Thursday from 7:30 am to 6:00 pm. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (571) 272-0841.

The fax number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phillip Gambel, PhD.
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April 9, 2004